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RESEARCH

FINAL REPORT

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20080231

DEVELOPING EXPORT MARKETS FOR SASKATOONS

Funded by: The Agriculture Development Fund

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Prepared by: Prairie Berries Inc.

Final Report
Developing Export Markets for Saskatoons
Project # 20080231

Presented to
Ministry of Agriculture
Agriculture Research Branch

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Developing Export Markets for Saskatoons
Project 20080231 - Final Report - January 2009

A. Abstract / Summary

The project objectives of this project to achieve market development for saskatoon berries were:

1. Create an awareness of saskatoon berries in the international markets
2. Position Saskatoon berries in the Natural and functional foods market in the US.
3. Find markets for ¼ million pounds of fruit

The project included the attendance of 2 US tradeshows, engagement of a consultant to assist positioning saskatoon berries into the Natural and Functional Food markets in the US, and to develop informational packages specific to the US regulations and health claims using scientific research and analysis as the basis of the information.

Results from the project are; from the two tradeshows we attended there were a total of 57 large companies from the US that were exposed to the saskatoon berry and its functional and nutritional properties. Of these 57 companies we continue to engage in serious communications with 8 companies interested in saskatoon berries. The work done by the consultants we hired to help build us a network into the US market has been valuable in getting contacts to the right people in the companies that will eventually make the decision to move the product development to a product for commercial use. Without this assistance we would never have reached companies like Nestle, General Mills, Kashi, Sambazon, Odwalla, Flavours of Florida, and many more like them. Having professional materials and scientific data to substantiate our positioning of saskatoon berries in the functional and natural food market gave us a significant advantage to creating a perception of an industry with high potential to do business with. The opportunity will eventually provide the Saskatoon Berry Industry with new markets to sell into.

As a conclusion to this project is that there is a high level of interest in the attributes saskatoon berries have relative to other fruits in the superfruit category. The high level of anthocyanins and polyphenols in saskatoon berries are of value to companies trying to improve the health perception of their products.

To be successful there are basically 2 areas we need to concentrate our efforts into. First is we must fast forward research on the functional properties of saskatoon berries. A limited amount of research has been done on the *in vitro* antioxidant capacity of Saskatoon berries. No research has been conducted in animals or humans to assess the relationship between the significant levels of phenolic compounds in Saskatoons and their antioxidant effects. This is a serious limitation in the ability to market novel Saskatoon berry ingredients into the functional market. There is a significant need to test Saskatoon berry extracts in animal

models to confirm *in vivo* efficacy of ingested berry compounds. Studies into the bioavailability and metabolism of Saskatoon berry phenolics are critical in the overall examination of the role that berry phytochemicals play in the prevention and treatment of chronic human diseases. Funding will be necessary to perform basic 'proof of concept' human research.

Second is our challenge for the saskatoon berry industry to find cost effective ways to handle and process the saskatoon berries in a commercial way allowing for us to be competitive in the market place.

B. Introduction / Method / Results

Of significance, in our market plan was to create an awareness of saskatoon berries outside the Canadian Western Provinces to increase the demand for saskatoon berries. After much research, Prairie Berries choose to attend 2 major tradeshows that are well known and attended by large food companies from both Canada and the US. Exposure is key to the success of the saskatoon berry as a whole.

The first tradeshow Natural Products Expo West claims to be the world's largest natural and organic products trade show. According to bvents.com, in recent years more than 50,000 people have attended the Natural products Expo West and more than 3000 exhibits were on hand. Attendees include: natural product stores, chain pharmacies, grocery, supermarket and mass market stores, food buyers from national restaurants, schools and hotels, distributors, brokers and importers. This trade show features new products and developments, industry issues and trends, networking opportunities, seminars, and workshops.

The tradeshow's focus on new products presented a great opportunity to introduce saskatoon berries. The tradeshow took place from March 4 -10, 2009. To help offset major costs in attending a tradeshow of this calibre we partnered up with Saskatchewan Trade and Export to share a 10 x 15' booth. The Our company sent two people to attend the tradeshow with the objective that one person would staff the booth while the other person walked the tradeshow floor to gather market intelligence and spend time handing out our product information on saskatoon berries to potential companies that could use saskatoon berries as an ingredient in their formulation of natural and/or healthy foods. Given saskatoon berries are virtually unknown to the rest of North America our company shipped samples through FEDEX to the tradeshow so we could provide the opportunity for people to try a saskatoon berries in several different applications.

The tradeshow was a huge success for us in that we created 23 qualified leads of companies interested in learning more about the functional and nutraceutical properties of saskatoon berries. However, for us, the real testimonial of success was whether or not after following up with these companies if we could convince them to buy or start product development using saskatoon berries as the ingredient. To date we have shipped to 2 companies in the US and continue to pursue another 5 companies strongly interested in the saskatoon berries. The first company American Wild Foods placed an order of $2500 US as they were interested in the dried flaked saskatoon berries as a natural high fibre ingredient for consumers. This company owned by Dr. Cass Ingram has a focus on wild berry extracts as a potential to increase energy, muscular strength, reduce excess weight, and rebuilding body functions. He has continued to communicate with us in the hopes that we can develop a natural extract from saskatoon berries. The second company, Isaac Farms has purchased the 80gram bag of sweetened dried saskatoon berries to introduce to Bay Area stores in the Atwater, CA area. For us to be successful in this area we need to work on a less expensive process for producing sweetened dried saskatoon berries.

The results of this one tradeshow created huge interest in huge companies such as Kashi, Abrazil, Tahitian Noni International, and Flavours of Florida. We have sent samples of products such as our concentrate, puree, dried berries, and IQF berries to these companies to be evaluated. We continue to provide additional research information on saskatoon berries and keep in close contact with these companies. I have provided an example of feedback from a couple of the companies to provide a context in which we are hopeful in one day transacting business.

The original plan was to attend a second tradeshow in Eastern US called the Summer Fancy Food Show in New York, NY but after several consultations with both STEP and the consultant we hired to assist us in the US market the decision was made we would have greater exposure of saskatoon berries in the Food Expo Tradeshow that ran simultaneous to the Institute of Food Technologist Annual Meeting. The logic behind

the decision was this show brought in food scientists, food technologists, and food industry professionals seeking sound science. Large companies such as Nestles, ConAgra, Hershey Foods, and hundreds of others had their professional people in attendance at this show. The first couple of days of the show was a venue for scientific research and emerging science about development and marketing of foods. The last 3 days is where the scientists, technologists and food professionals explored the Food Expo sourcing out new product ingredients and companies that could address the needs of the companies they worked for.

Our company sent the same 2 people down to this tradeshow to continue building the awareness of the uniqueness and the attributes of the saskatoon berry as a food ingredient. We also had an opportunity to attend several of the educational and scientific programs. Of particular interest was the "Designing Foods for Turbulent Times". It focused on the influence of the economy on the food industry and the importance of food development and marketing during this period. Because we had great success at the earlier tradeshow in walking the floor to hand out product information on saskatoon berries to targeted companies also participating at the show we had one person spend most of their time meeting and talking to other exhibiting companies. The other person spent their time in the tradeshow booth promoting and educating companies on what were saskatoon berries, where did they grow, what products were available and how did they fit the natural and functional ingredient food industry. Given we knew that no one would know what a saskatoon berry was our company shipped IQF saskatoon Berries, puree, juice, concentrate and dried berries to the US show. The samples definitely provided interest in that just the color alone brought many interested companies into the booth to try the saskatoon berries.

The contact at this show focused primarily on the technical and functional properties of saskatoon berries as an ingredient. At times the technical information being sought by the technologists stretched our capacity from scientific and technical research data. Fortunately for us Rick Green from the POS Pilot Plant in Saskatoon was also in attendance at the IFT and Food Expo. He provided us with the expertise to address many of the questions related to how the anthocyanins and polyphenols were absorbed into the human body to produce a oxygen scavenging function similar to other fruits like blueberries and cranberries. Previous to attending the show we had worked with Rick to compile as much scientific data we could on saskatoon berries relative to their functional properties. We used this data to put together a profile of saskatoon berries which would be included in the other promotional brochures for distribution during the tradeshow.

Once again the exposure to the Food Ingredient Industry was phenomenal. We had over 34 companies stop by our booth to talk about saskatoon berries. Most of the companies had never heard of saskatoon berries but they all walked away with a keen interest in this fruit because of the high antioxidant value and the high fibre attributes of saskatoon berries.

Some of the companies we are particularly interested in continuing to pursue opportunities with,are;

1. Dr. Smoothie who promotes fibre and antioxidant rich smoothies.
2. American Fruit & Flavours who process fruit juices and concentrates
3. SunSweet – interested in our sweeten dried fruit
4. Otten Flavours – interested in the frozen saskatoon berries
5. Maidstone Bakeries – who does all the muffins and bagels for Tim Hortons
6. Agrana Fruit US Inc. – their Senior product development person was extremely interest in the functional properties of saskatoon berries.
7. General Mills – interested in the dried fruit
8. Teecino – interested in the dried flaked berries for use in tea
9. Nestle USA and Canada – interested in ORAC, Fibre and manganese of saskatoon berries

To date the single largest barrier to entrance into the US market with commercial companies such as those indicated above is the price of saskatoon berries relative to other fruits. The price issue is one that can be overcome through achieving greater efficiencies in handling the fruit during production and in building fruit processing capacity in Saskatchewan.

As part of the strategy to create an awareness of saskatoon berries in the US natural and functional food market was to engage experts working inside the industry such that we could gain an advantage by the networks that would exist. Our goal was to increase our chances of success by leveraging relationships that already exist with some of the big players in the market and to use the knowledge to develop a target approach to the market. We used two different consultants to assist us with the US market. The first person Bob Burke came recommended by STEP. Our interest in Bob was primarily from the perspective of his experience and expertise prior to consulting. Bob was with Stonyfield Farm Yogurt for 11 years as Vice President, Sales & Corporate Development and Vice President, Marketing & Sales. He has held marketing positions with Colombo, Inc. and Sperry Top-Sider..

Our engagement with Bob focused on preparing us to understand the importance of all the costs to bring a product to market, the margins at each stage of the supply chain. He provided us with the hot categories for food in the US market such that we could develop informational brochures that targeted a specific category. Bob also worked with us on what marketing aids would best suit the US market, what statements could we make about our product and assisted us in putting together the media kit that we would use at the Natural Products show. In addition and very beneficial was his ability to bring clients to our booth to talk about the saskatoon berries. A copy of the media work we did with Bob is provided in Appendix C. As a result of this work we had 2 US magazines come and interview us on saskatoon berries. The first was Rachel Beller M.S. R.D. who writes for Body and Health, the second was Greg Kaiser from EnCore Fruit Marketing out of California.

A second company, Alpha Food Ingredients Inc, IL. USA, was chosen as a result of the Food Expo in June. In meeting up with this company at the IFT and Food Expo they became very interested in the saskatoon berry as a good match for other ingredient products in the natural foods category. They were already working with large ingredient companies with Omega 3 and 6 products. Brian Gurin the principle owner also had a willingness to work with us in positioning Saskatoon Berries in the US market even though they were virtually unknown. We learned from walking around the tradeshow with Brian that his network and respect in the industry was huge. At the show we approached Brian to see if he would be interested in a contract to make presentations to ingredient companies we met at the IFT and Food Expo to increase the exposure of saskatoon berries into these companies. Before going into to do the presentations we contracted a trade lawyer GreenBerg Traurig from the US, to ensure the scientific information we were going to use and how we intended to position it in terms of health benefits would not provide us with complications later on. Brian has completed 8 presentations and we continue to follow up with information and samples to 4 of the 8 companies.

An intregral piece to our strategy in building awareness of saskatoon berries was to put together marketing materials that would help promote the saskatoon berries. Our team of experts included Holdsworth Photography for photos used in the brochures and on the tradeshow display, ACE Exibits who printed the tradeshow display, Grand Valley Press who produced the brochures, input from our consultant and media experts from the tradeshow. The information packages were to be targeted at the functional and natural ingredient companies. Thus knowing the importance of information pertaining to the nutritional and antioxidants in we engaged SunWest Labs out of Saskatoon to complete the scientific analysis. Given blueberries are often seen as the number 1 Super Fruit in the functional food category we completed an analysis looking at the full profile of saskatoon berries relative to blueberries. This profile is provided in

Table 1 below. Using data in our presentation of saskatoon berries at the tradeshows allowed for us to differentiate the attributes such as fibre, managanese, potassium and the anthocyanins to provide our value proposition to potential buyers. Another key information piece was our ability to demonstrate the significance of saskatoon berries with regard to the total antioxidant activity relative to more common fruits being used in the functional food industry. This data is provided in table 2 & 3 below. All the data from the analysis was used either in a brochure handed out at the tradeshows or as part of an information package that was sent to the large companies we met at the tradeshows. The different marketing material is provide in Appendix C.

Table 1

Nutrient Analysis

Frozen Saskatoon Berries to Blueberries

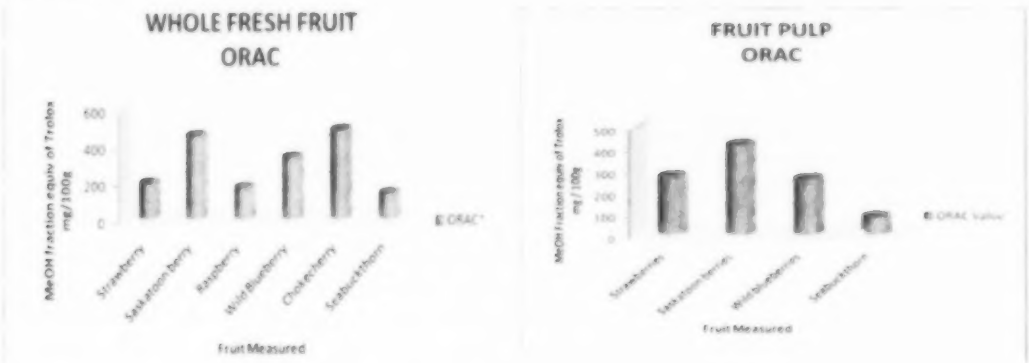
Nutrient	Units	Value per 100 grams of edible portion	Value per 100 grams
Proximates		**Blueberry**	**Saskatoon Berry**
Water	g	86.55	79.55
Energy	kcal	51	84.85
Energy	kj	213	355.3
Protein	g	0.42	1.33
Total lipid (fat)	g	0.64	0.49
Ash	g	0.18	0.63
Carbohydrate, by difference	g	12.17	18.49
Fiber, total dietary	g	2.7	5.93
Minerals			
Calcium, Ca	mg	8	41.97
Iron, Fe	mg	0.18	0.96
Magnesium, Mg	mg	5	24.4
Phosphorus, P	mg	11	20.15
Potassium, K	mg	54	162.16
Sodium, Na	mg	1	0.48
Zinc, Zn	mg	0.07	0.18
Copper, Cu	mg	0.033	ND
Manganese, Mn	mg	0.147	1.42
Selenium, Se	mcg	0.6	ND
Vitamins			
Vitamin C, total ascorbic acid	mg	2.5	3.55
Thiamin	mg	0.032	0.04
Riboflavin	mg	0.037	3.54mcg
Niacin	mg	0.52	
Pantothenic acid	mg	0.125	31NE
Vitamin B-6	mg	0.059	32.58mcg
Folate, total	mcg	7	4.55mcg
Folic acid	mcg	0	
Folate, food	mcg	7	
Folate, DFE	mcg_DFE	7	
Vitamin B-12	mcg	0	NC
Vitamin A, IU	IU	81	35.68
Retinol	mcg	0	0
Vitamin A, RAE	mcg_RAE	4	10.91RE
Vitamin E	mg_ATE	1	1.12

Nutrient	Units	Value per 100 grams of edible portion	Value per 100 grams
Proximates		**Blueberry**	**Saskatoon Berry**
Lipids			
Fatty acids, total saturated	g	0.053	
4.00	g	0	0
6.00	g	0	0
8.00	g	0	0
10.00	g	0	0
12.00	g	0	71mg
14.00	g	0	71 mg
16.00	g	0.031	30.23 mg
18.00	g	0.011	5.05mg
Fatty acids, total monounsaturated	g	0.091	
16:1 undifferentiated	g	0.002	1.95 mg
18:1 undifferentiated	g	0.087	105.30 mg
20:01	g	0	3.90 mg
22:1 undifferentiated	g	0	0
Fatty acids, total polyunsaturated	g	0.279	
18:2 undifferentiated	g	0.167	185.61 mg
18:3 undifferentiated	g	0.112	6.4 mg
18:04	g	0	
Omega 6			186.36 mg
Omega 3			6.40 mg
20:02			30 mg
20:4 undifferentiated	g	0	0
20:5 n-3	g	0	0
22:5 n-3	g	0	0
22:6 n-3	g	0	0
Cholesterol	mg	0	0
Amino acids			
Tryptophan	g	0.002	0.02
Threonine	g	0.012	0.04
Isoleucine	g	0.013	0.05
Leucine	g	0.025	0.08
Lysine	g	0.008	0.04
Methionine	g	0.007	0.02
Cystine	g	0.004	0.01
Phenylalanine	g	0.015	0.05
Tyrosine	g	0.005	0.03
Valine	g	0.018	0.05
Arginine	g	0.022	0.10

Table 2. ABTS Radical Scavenging Activity of Saskatoon Berry Puree and Concentrate versus Other Fruit Products

Sample	°Brix	Total Antioxidant Activity (mM Trolox/g sample)
Saskatoon Puree	17	17.3 ± 0.9
Saskatoon Concentrate	50	16.8 ± 1.0
Blueberry Concentrate	64	7.5 ± 0.7
Cranberry Concentrate	50	11.7 ± 0.8
Pomegranate Concentrate	17	16.7 ± 1.1

Table 3 – ORAC Values



C. Conclusion and Recommendations.

As a conclusion to this project is that there is a high level of interest in the attributes saskatoon berries have relative to other fruits in the Super Fruit category as a part of the functional and natural markets. The high level of anthocyanins and polyphenols in saskatoon berries are of value to companies trying to improve the health perception of their products.

To be successful there are basically 2 areas we need to concentrate our efforts into. First is we must fast forward research on the functional properties of saskatoon berries. A limited amount of research has been done on the *in vitro* antioxidant capacity of Saskatoon berries. No research has been conducted in animals or humans to assess the relationship between the significant levels of phenolic compounds in Saskatoons and their antioxidant effects. This is a serious limitation in the ability to market novel Saskatoon berry ingredients into the functional market. There is a significant need to test Saskatoon berry extracts in animal models to confirm *in vivo* efficacy of ingested berry compounds. Studies into the bioavailability and metabolism of Saskatoon berry phenolics are critical in the overall examination of the role that berry phytochemicals play in the prevention and treatment of chronic human diseases. Funding will be necessary to perform basic 'proof of concept' human research.

Second is our challenge for the saskatoon berry industry to find cost effective ways to handle and process the saskatoon berries in a commercial way allowing for us to be competitive in the market place. We must continue to invest in technology and processing infrastructure specific to the fruit industry.

Last but not least continued support to attend these high quality tradeshows will definitely increase opportunities for us to grow the saskatoon berry industry in Saskatchewan.

D. Acknowledgements

Prairie Berries has presented numerous times to growers, Associations and other entreprenuerial groups and we always recognize the contribution of the Agri-Value program in our ability to promote and grow the industry. On April 6th I presented at the Ontario Premier's Summit on Agri-Food recognizing the opportunities we are provided through Saskatchewan's Ministry of Agriculture and in particular the advancements we have accomplished as part of this project.

Other

Expense Statement attached as a separate file.

Appendix A - Tradeshow Qualified Leads

Natural Product Show

Kashi	Steven Roberts Original Deserts	Odwalla
New Venture International LLC	Angel's Natural Foods	Dragon Herbs
S.G. Trading	Teawolf	Jakes
Naturmed	Allera Health Products	Blondies Naturals
Sambazon	Hansens Beverage Company	Whole Foods
Torn & Glasser	Tahitian Noni International	Abrazil
Lakeview Natural Foods	Flavours of Florida	Isaac Farms
American Wild Foods		

IFT Food Expo

Canadian Assoc of Chinese Merchants	Dr. Smoothie	American Fruit & Flavours
Vegetable Juice Inc	Crop Source- SunSweet	Otten Flavours
Fruit d Or	Applesnax	Maidstone Bakery
Continental Mills	Natural Formulas	Agrana
Standardized by nature	General Mills	Herbalife
National Raisin Company	Anton Angelich Flavoured Teas	Bioplex Nutrition
Oregon Freeze Dry	Ruiz Foods	Nutrilite
Teecino	Nestle USA	American Premium Blends
Smuckers		

Appendix B - Communication of Interest from significant players in the US.

Abrazil

From: Tony Chuang [mailto:tonyc@abrazil.net]
Sent: May-13-09 10:35 AM
To: prairieberries@sasktel.net
Cc: abrazil.prod@abrazil.com; sonyahsu@abrazil.net; elite.liu@abrazil.net; 'james'; 'Mayara'
Subject: RE: sample of concentrate

Hi Sandra,

Thank you for the sample!
Can you reconfirm you price for us on the concentrated?
As of now, I believe that if there is any chance for us to work with Saska berry, and or our customers to start getting your berry into our berries blends, most likely it will be with your puree due much higher cost!
Thus, it was good to be small sample, and it will be frozen for the right opportunity.

Regarding our product availability, there is only 170kg or 190kg drum in the U.S. warehouse.
For trying the acai, if was here in the US you can get at most of the supermarket, but I don't know about Canada.

This week, I'm busy because some cargo just arrived. And as soon as I get any news regarding your puree, I will let you know.

By the way, were you able to find out any cheap way to ship berries for you to make blending with Saska puree?

Best regards,
Tony Chuang

ABRAZIL, LLC
support@abrazil.com | www.abrazil.com
USA: New York / New Jersey - California | Tel: 732-297-9262 | Fax: 732-783-0397

Tony I just want to be clear on what you are looking for. Are you asking for a ORAC value of saskatoon berries from another study or are you looking for the ORAC value of the saskatoon berry concentrate or puree. I am thinking if you need this done maybe we should have it done by a reputable lab in the USA. Maybe we could share in the cost to have it completed.

What I am not sure of, is which method you want to use to measure the ORAC. Measuring by methanol or acetone fraction produces different results and as per our researcher the evaluations should coincide with what specific components you are looking to extract from the fruit. I am sending you another study on saskatoon berries and other fruits using these two various methods to evaluate ORAC.

Tony can you please advise of specifics of what you are trying to achieve from a health drink perspective and maybe our researcher would be able to advise of how best to measure what you are looking for.

From: Prairie Berries [mailto:prairieberries@sasktel.net]
Sent: Monday, March 16, 2009 11:53 AM
To: tonyc@abrazil.com
Subject: Saskatoon Berry Reports

Tony,
Here is the research reports on saskatoon berries. I have also enclosed the nutrient information on the frozen saskatoon berry. In the technical report which shows the process we used and the tests preformed on the results of the extraction method. In the 3rd report the tests were done on analyzing the different varieties to determine which cultivar had the highest level of antioxidant properties.

Tahitian Noni International

Laura,
Thank you for the feedback on the saskatoon berry concentrate. I would like an opportunity to discuss the pricing issue on the saskatoon berry concentrate as I am unaware of any price quote we have provided to your company. If you are using the price listed on the commercial invoice it is only relevant to small quantities and does not reflect an offer that we could make to a company such as yours where volumes would be much larger.
Regards
Sandra Purdy
Prairie Berries Inc.
E-mail: prairieberries@sasktel.net
www.prairieberries.com
Phone: (306) 788-2018
Fax: (306) 788-4811

From: Laura Robertson [mailto:Laura_Robertson@tni.com]
Sent: May-29-09 8:06 AM
To: prairieberries@sasktel.net
Subject: RE: Samples of the Concentrate.

Sandra.

I have looked at the Saskatoon Berry juice and it is positive but it is very expensive and will not work in our application.

Regards.

Laura Robertson
Director of Product Applications
(801) 234-3601 Phone
(801) 234-3029 Fax
(801) 376-2252 Cell

From: PrairieBerriesInc [mailto:prairieberries@sasktel.net]
Sent: Thursday, May 28, 2009 4:06 PM
To: Laura Robertson
Subject: RE: Samples of the Concentrate.

Laura.
Just thought I would do a quick follow up with you to see if you have had a chance to test the saskatoon berry concentrate in your application. Do you have any questions or need additional information?

From: Laura Robertson [mailto:Laura_Robertson@tni.com]
Sent: May-12-09 3:47 PM
To: prairieberries@sasktel.net
Subject: RE: Samples of the Concentrate.

Thanks I received the samples today!

From: PrairieBerriesInc [mailto:prairieberries@sasktel.net]
Sent: Tuesday, May 12, 2009 3:39 PM
To: Laura Robertson
Subject: Samples of the Concentrate.

Laura.
Please be advised that we have shipped you 3 samples of the saskatoon berry concentrate. The 2 samples labelled 05823 is concentrate made from three different varieties of saskatoon berries (smokie, northline, martin). Please note that the brix level is shown as 55% Brix when in fact it is 64% Brix and the pH is 3.79. The other samples labelled 09133 have a brix level of 55% but is recorded on the label as 61% brix. Sorry for the error on the label but the person recording provided the wrong Sample ID and brix number to the person doing up the labels. The error was discovered this morning when samples were re-checked before storing them.

The sample ID 09133 was made only from the martin variety of saskatoon berries. This particular variety as per the research paper "Evaluation of Saskatoon Berry Cultivars. I previously sent, has higher levels of total pholyphenol content and antioxidant activity than other commonly grown varieties such as smokie and northline. So I thought you might be interested in this particular variety on its own merit. The 09133 lot number was not filtered whereas the 08523 was put through a 20 um filter.

Laura the nutritionals have not been done up on these samples however if your initial tests prove to be favourable in terms of the flavour and compatibility with your other juices we certainly would be willing to have nutritionals completed. When we looked at the development of this product we were more interested in the anti-oxidant activity of the concentrate. Below is the analysis completed by our researcher on the saskatoon berry concentrate and puree.

The sample was sent by FEDEX. Your tracking number is 8636 4609 1570 and you should receive it on Wednesday morning.

Exotic Superfruits or Local Berries? You can choose both!

The next exotic superfruit is one found right on your doorstep! Yes the Great White North of Canada.

As the science stacks up on warming sea and air temperatures, maybe the time has come to turn our full attention to home-grown superfruit exotica. Exotic "superfruits" such as acai and cupuacu have gained notoriety for their health benefits. But what other fruit with much of the same health benefits is being produced in North America that can ease industry's uncomfortable position of being at loggerheads with the planet?

Saskatoon Berries are nature's nutritional "*SUPERFRUIT*" produced in the great white north of Canada making their day beau for the first time at Natural Products Expo West tradeshow.

So what's up with Saskatoon Berries?

Good source of antioxidants, High source of fibre, High source of manganese
AND Saskatoon berries just don't quit when it comes to health and nutrition. Saskatoon Berries are a source of 5 essential vitamins and minerals.

Saskatoon berries could be considered as one-kind of exotic 'Superfruit'. The word 'Superfruit' refers to fruit which contains high sources of antioxidants. The benefits of antioxidant have contributed to supporting cardiovascular health and a healthy inflammation response.

Consumers are looking for more natural and healthy fruits to add into their diet. One of the studies done by C.Hu, B.H.L. Kwok, and D.D Kitts shows Saskatoon Berries are good source of anthocyanins (Phyto-chemical Antioxidant). Recent research indicates that Saskatoon berries have higher levels of antioxidant compared to other more common berries such as wild blueberries, strawberries and raspberries. The ORAC value is one of the methods used to measure the total antioxidant activity in fruit. In the table, ORAC values show saskatoon berries rank highest in fresh fruit relative to other common fruits.

The science behind anthocyanins, shows potent weight management potential. In an article written by Stephen Daniells, 11-Feb-2008 - Anthocyanins, antioxidant pigments from fruit and vegetables, have a "significant potency" against fat cells and could be used for the prevention of weight gain, suggests a new study from Japan.

Both in vitro and in vivo experiments showed that the antioxidants influenced the function of fat cells, and thereby could play in anti-obesity and prevention against metabolic syndrome (MetS), states the paper in the Journal of Agricultural and Food Chemistry.

"This study shows that anthocyanins have a significant potency of antiobesity and ameliorate adipocyte function in in vitro and in vivo systems and also that they have important implications for preventing metabolic syndrome," wrote Takanori Tsuda from Chubu University (Aichi, Japan). (see attached addendum for full article)

Company Profile

Prairie Berries Inc. is both a grower and processor of saskatoon berries. Its operation consists of 180 acre saskatoon berry orchard, a federally registered primary processing plant (cleaning, grading, freezing, packaging) and a secondary processing plant (processor of value add saskatoon berry products). Prairie

Berries orchard has the production capacity of 360,000 lbs and has 17 alliance growers with additional production capacity of 520,000 lbs . Currently the primary processing plant has the capacity to handle 1.4 million lbs and the secondary processing plant has the capacity to produce 100,000 units. In 2010 Prairie Berries will expand its plant to 4.6 million lbs and move current production from the Saskatchewan Food Centre and the POS plant in Saskatoon to its new facility.

Since Prairie Berries start up in 1993, the company has played a major role in the growth of the Saskatoon berry industry. Sandra Purdy, the owner has provided a leadership role as the President of the Saskatchewan Fruit Growers Association (SFGA). During her tenure, her accomplishments include the expansion in the number of planted acres for Saskatoon berry orchards, building a market awareness of the unique saskatoon berry, implementing On-Farm-Food-Safety certification for growers, and the introduction of grading standards.

In 2002, Sandra Purdy, was the first industry player to put together a major initiative to introduce frozen Saskatoon berries into the commercial market place. By creating a value chain between Federated Co-op Ltd (FCL), a packaging house, and 7 other growers we were able to provide consistent quality supply to introduce frozen berries into retail Co-op stores across Western Canada.

In Feb. 2003 another major initiative accomplished by Prairie Berries Inc. was to create a product for yogurt and we worked with Dairyland to introduce a low fat Saskatoon Berry Yogurt into the marketplace.

In 2006, Prairie Berries developed two new products; infused dried berries and concentrate to introduce into the ingredient market. Just recently in 2008, Prairie Berries introduced a retail 80 gram stand up pouch for the specialty food retail market.

Fundamental to Prairie Berries Inc.'s philosophy is to work together with growers, suppliers, customers, and employees to develop long term cooperative alliances by which all parties find mutual benefit through the production, processing, and marketing of Saskatoon berries.

Article on Anti-obesity and Prevention against Metabolic Syndrome

Metabolic syndrome (MetS) is a condition characterised by central obesity, hypertension, and disturbed glucose and insulin metabolism. The syndrome has been linked to increased risks of both type 2 diabetes and CVD.

Fifteen per cent of adult Europeans are estimated to be affected by MetS, while the US statistic is estimated to be a whopping 32 per cent. Obesity is established to be the main risk factor for MetS.

The new study looked at the effects of the anthocyanin cyanidin 3-O-beta-D-glucoside (C3G) in both mice fed a high-fat diet, and on human fat cells incubated with the compound.

Tsuda reports that mice fed a high-fat diet supplemented with C3G-rich purple corn color (PCC, 0.2 per cent) for 12 weeks had significantly lower body weights than animals fed only the high-fat diet (30 per cent lard).,

Furthermore, *"the dietary PCC clearly suppressed the HF-diet-induced increase in the tissue weight deposits. The data indicate that the dietary PCC has a significant potency for antiobesity,"* wrote Tsuda.
The *in vitro* study used human preadipocytes (cells that can be stimulated to develop into fully-fledged fat cells, adipocytes) and incubated them with anthocyanins for 24 hours. A down-regulation of plasminogen activator inhibitor-1 (PAI-1), said to be associated with both obesity and type 2 diabetes, was observed after incubation, *"suggesting that regulation of PAI-1 expression is one of the important therapeutic targets for the metabolic syndrome,"* states the research.

"These studies indicate anthocyanins have a unique therapeutic advantage responsible for the regulation of the adipocyte function," wrote Tsuda.

"These findings provide a biochemical basis for the use of anthocyanins, which can also have important implications for preventing metabolic syndrome," concluded the researcher.

The retail market for weight management products is estimated to be worth $3.93bn in the US by Euromonitor International, indicating that call to slim down or face the health consequences is being heeded

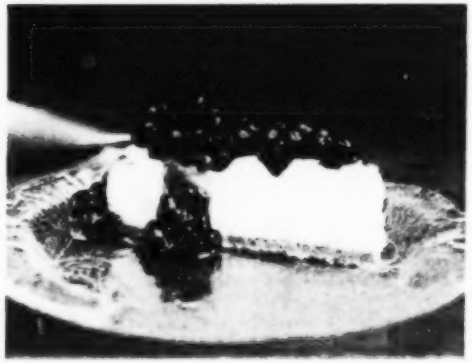
by a slice of the overweight population at least.

Source: *Journal of Agricultural and Food Chemistry*
Voume 56, Number 3, Pages 642-646, doi: 10.1021/jf073113b
"Regulation of Adipocyte Function by Anthocyanins; Possibility of Preventing the Metabolic Syndrome"
Author: Takanori Tsuda

Note:
Informational Brochures provided as a separate file.

Copy of Display used at the tradeshows provided as a separate file.

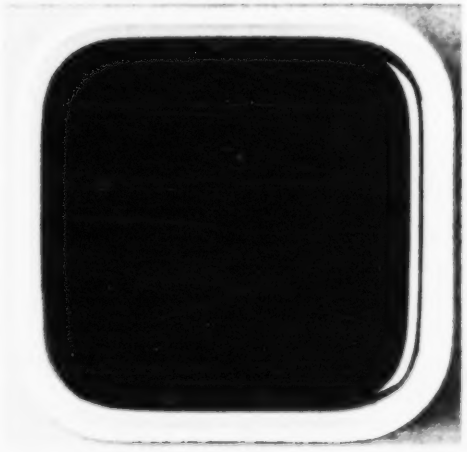
Sundae Style Fruit Topping



Devilishy delicious is the best way to describe this perfect fruit explosion. Drizzling the gourmet fruit toppings on icecream, cheesecakes, short cakes, or yogurt transforms them into delectable mouth watering culinary creations.

- Packed 4.5, 11 litre pails
- Saskatoon berry, Black currant, Raspberry, SummerBerry

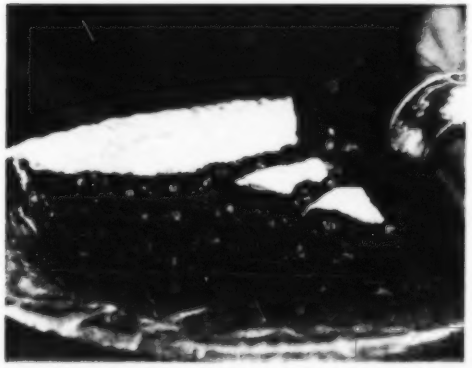
Saskatoon Berry Concentrate



The rich deep purple coloured concentrate has the unique sweet -- tart taste of Saskatoon berries.

- 50% brix
- Packed 20 litre pail & 204 litre drum

Saskatoon Berry Pie Filling



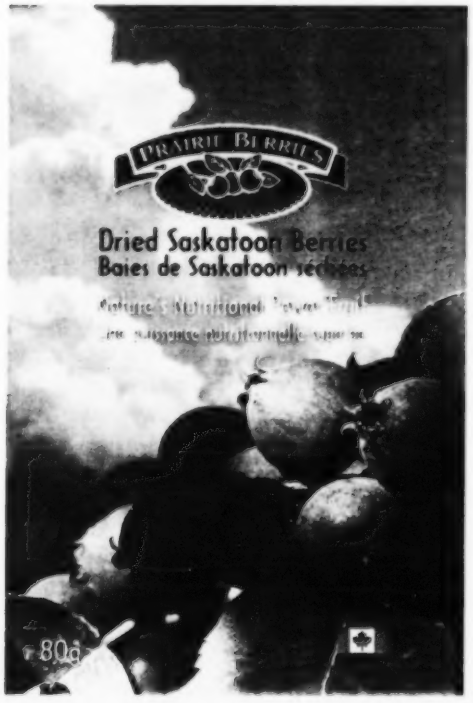
Prairie Berries Saskatoon berry pie filling tantalize your taste buds with a delicious fruit flavour. The award-winning pie fillings boast 70% fruit. Add a gourmet ingredient on your fine dining restaurant menu providing your customers with a taste second only to Gramma's very own home baked Saskatoon berries pies.

- Packed as 4.5 , 11 litre pails
- Saskatoon berry, Summer Berry

Box 21 Keeler, SK. Canada S0H 2E0
Tel. 306-788-2018 Fax. 306-788-4811
Email: prairieberries@sasktel.net
Web: www.prairieberries.com

CANADA'S WILDEST BERRIES

SASKATOON BERRIES

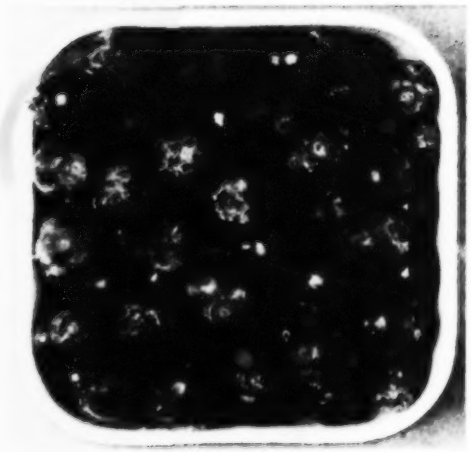


Anthocyanins Show Potent Weight-Management Potential

Anthocyanins, antioxidant pigments from fruit and vegetables, have a *"significant potency"* against fat cells and could be used for the prevention of weight gain, suggests a new study from Japan.

Source: Journal of Agricultural and Food Chemistry Volume 56, Number 3, Pages 642-646

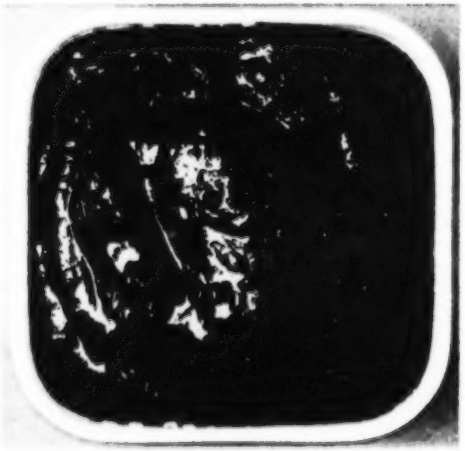
Frozen Saskatoon Berries



Experience the unique flavour of Canada's prestigious prairie grown Saskatoon Berries. A generous handful of this exotic fruit increases the nutritional benefit of any recipe as Saskatoon berries are a high source of fibre and antioxidants. The IQF (individually quick frozen) berries make a great ingredient for muffins, smoothies, fruit parfaits, crumbles and fruit filling.

- Packed 11kg bag in box

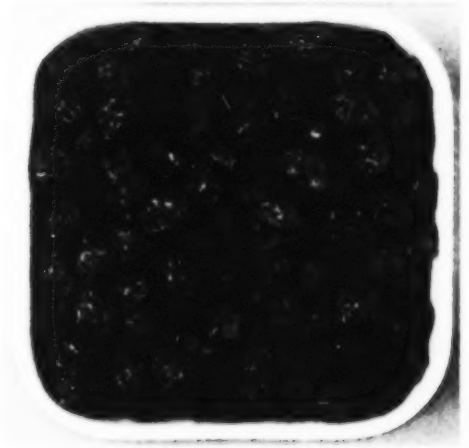
Saskatoon Berry Puree



Prairie Berries rich tasting fruit puree is like a splash of refreshing fruit when added to yogurts, fruit bars, and, smoothies. Purple Packs a Punch in this whole fruit puree. It adds a nutritional boost unlike any other.

- 15% - 23% brix
- Packed 10 Litre, 20 litre pails, and 204 litre drums

Sweeten Dried Saskatoon Berries



Prairie Berries' all natural dried fruit brings out the unique & distinctive notes of the tart sweet flavour of the Saskatoon berry. The sweeten dried Saskatoon berries are made by the best selection of Saskatoon berries nature has to offer. Saskatoons are a source of Antioxidant, Fibre and 5 Essential vitamins and minerals.

- Packed 2 x 5 kg sealed bag / case

Fibre

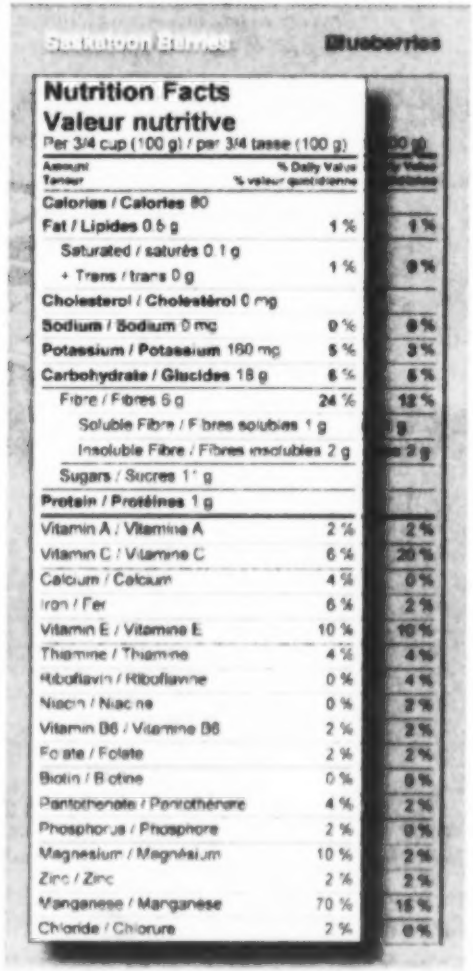
"Diets low in saturated fat and cholesterol and rich in fruits, vegetables, and grain products that contain some types of dietary fiber, particularly soluble fiber, may reduce the risk of heart disease, a disease associated with many factors."

From a nutritional perspective Saskatoon berries contain a very high source of *fibre*. A 3/4 cup (100gram) serving of frozen Saskatoon berries contain 6 grams of fibre or 24% of the daily requirement.

Unfortunately, not everyone understands how good the fibre helps our bodies to defend against certain diseases. "Fibre contributes to reducing the risks of heart diseases; promoting digestive health; and evidence now shows supporting healthy glucose levels." "Studies found that high total dietary fibre intake was linked to 40 percent lower risk of coronary heart disease, compared to a low fibre intake Soluble fibre breaks down as it passes though the digestive tract, forming a gel that raps some substances related to high cholesterol. There is some evidence that soluble fibre may lessen heart disease risks by reducing the absorption of cholesterol into the bloodstream.

Other Nutrients

Saskatoon berries just don't quit when it comes to health and nutrition. Saskatoon Berries are a source of 5 essential vitamins and minerals.



Saskatoon Berries — Blueberries

Nutrition Facts
Valeur nutritive
Per 3/4 cup (100 g) / par 3/4 tasse (100 g)

Amount / Teneur	% Daily Value / % valeur quotidienne
Calories / Calories 80	
Fat / Lipides 0.5 g	1 %
Saturated / saturés 0.1 g + Trans / trans 0 g	1 %
Cholesterol / Cholestérol 0 mg	
Sodium / Sodium 0 mg	0 %
Potassium / Potassium 160 mg	5 %
Carbohydrate / Glucides 18 g	6 %
Fibre / Fibres 6 g	24 %
Soluble Fibre / Fibres solubles 1 g	
Insoluble Fibre / Fibres insolubles 2 g	
Sugars / Sucres 11 g	
Protein / Protéines 1 g	
Vitamin A / Vitamine A	2 %
Vitamin C / Vitamine C	6 %
Calcium / Calcium	4 %
Iron / Fer	6 %
Vitamin E / Vitamine E	10 %
Thiamine / Thiamine	4 %
Riboflavin / Riboflavine	0 %
Niacin / Niacine	0 %
Vitamin B6 / Vitamine B6	2 %
Folate / Folate	2 %
Biotin / Biotine	0 %
Pantothenate / Pantothénate	4 %
Phosphorus / Phosphore	2 %
Magnesium / Magnésium	10 %
Zinc / Zinc	2 %
Manganese / Manganèse	70 %
Chloride / Chlorure	2 %

PRAIRIE BERRIES

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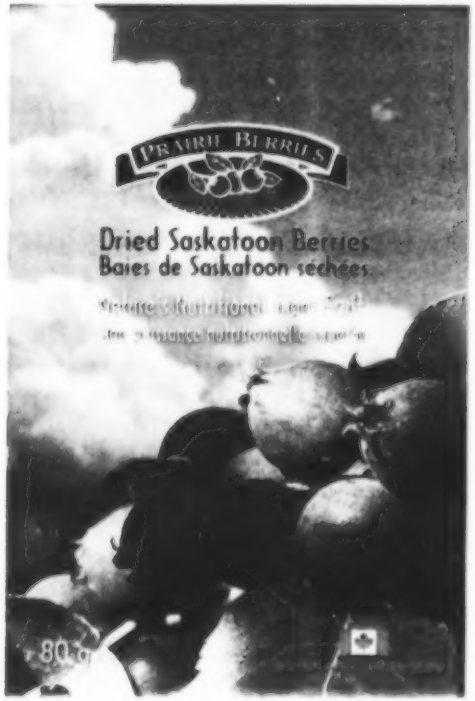
CANADA'S WILDEST BERRIES

SASKATOON BERRIES



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Source: Journal of Agricultural and Food Chemistry Volume 56, Number 3, Pages 642-646

Saskatoon Berries
Nutraceutical, Nutrition & Health

Saskatoon berries could be considered as one-kind of 'Superfruit'. The word 'Superfruit' refers to fruit which contains high sources of antioxidants. The benefits of antioxidant have contributed to supporting cardiovascular health and a healthy inflammation response.

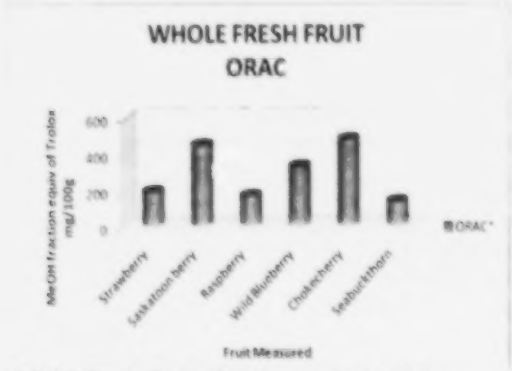
Antioxidant

Consumers are looking for more natural and healthy fruits to add into their diet. One of the studies done by C.Hu, B.H.L. Kwok, and D.D Kitts shows Saskatoon Berries are good source of anthocyanins (Phyto-chemical Antioxidant). Recent research indicates that Saskatoon berries have higher levels of antioxidant compared to other more common berries such as wild blueberries, strawberries and raspberries.

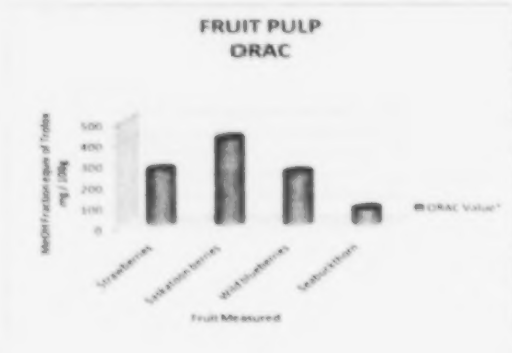
"Low fat diets rich in fruits and vegetables (foods that are low in fat and may contain dietary fiber, Vitamin A, or Vitamin C) may reduce the risk of some types of cancer, a disease associated with many factors." Saskatoon Berries are a source of vitamin A and C, and it is a high source of dietary fiber.)

The ORAC value is one of the methods used to measure the total antioxidant activity in fruit. In the tables below the ORAC values show saskatoon berries rank highest in both fresh fruit and in fruit pulp relative to other common fruits.

ORAC Whole Fruit (fresh weight basis)



ORAC Fruit Pulp (fresh weight basis)



Timing of antioxidants key to easing oxidative stress after meals

By Stephen Daniells

04/12/2007 - **Consuming antioxidant-rich foods during meals reduces the oxidative stress associated with eating, says a new study that highlights the importance of timing for maximum health benefits.** Researchers from the US Department of Agriculture (USDA) measured the blood antioxidant capacity (AOC) of subjects in a series of five clinical trials, and found that consumption of antioxidant-rich foods blunted oxidative stress after a meal of rich in carbohydrates, protein, and fat.

"We have demonstrated that consumption of certain berries and fruits such as blueberries, mixed grape and kiwifruit, was associated with increased plasma AOC in the postprandial state and consumption of an energy source of macronutrients containing no antioxidants was associated with a decline in plasma AOC," wrote lead author Ron Prior in the *Journal of the American College of Nutrition*.

"Reduced oxidative stress has been linked to a increase in immune-system health, brain/cognitive health, and cardiovascular health." A control meal, rich in the macronutrients - carbohydrates, protein and fat - consumed without antioxidants was found to result in a decrease of blood AOC, showing an increase in oxidative stress.

"It's not just what you eat but when you eat it that matters. Phytochemicals in foods have varying degrees of bioavailability and generally are cleared from the blood 2-4 hours after they're eaten," said Prior. *"Ensuring that your body has a steady supply of antioxidant-rich foods can help combat oxidative stress throughout the day."*

"It takes about 2.5 servings of antioxidant containing fruits and/or vegetables in a meal to prevent oxidative stress following the meal. The more calories you take in the more dietary antioxidants you need," he added.

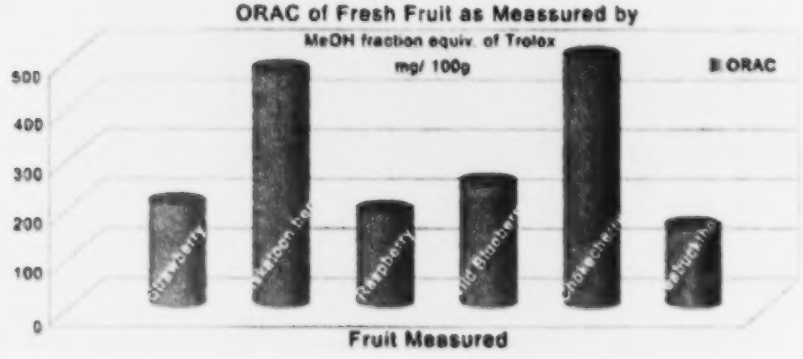
PRAIRIE BERRIES

SASKATOON BERRIES

High in Fiber

super Fruit

The benefits of antioxidants have contributed to supporting cardiovascular health and a healthy inflammation response.



SASKATOON BERRIES